



United States
Department of
Agriculture

Forest
Service

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Reply to: 3400 Forest Pest Management

Date: MAR 31 1983

Subject: Douglas-fir Seed Orchard, Randle RD


To: Forest Supervisor, Gifford Pinchot NF

On February 25, Greg Filip and Sally Cooley, Forest Pest Management Pathologists, accompanied by Dave Doty, Regeneration Forester (Randle RD), examined a recently established Douglas-fir Seed Orchard (Cispus River) where some of the planted seedlings were dying.

The seedlings (rooted cuttings) were planted in 1981. The site had been checked for disease in 1978 by FPM pathologists. *Armillaria mellea*, a root rot fungus, had been found in hemlock stumps on the site and in Douglas-fir saplings in the adjacent stand. Recommendations to remove the hemlock stumps (and possibly Douglas-fir stumps if found to be infected after excavating roots of a small sample of them) were carried out in preparing the site for seedlings. Douglas-fir stumps and most large root fragments were removed as well.

When planted seedlings were examined, it appeared that all mortality had occurred the previous year or earlier. Red or yellow foliage and living portions of roots or stems, indications of recent mortality, were not present. No signs of infection by *A. mellea* (white mycelial fans in cambium area of roots and stem) or other pathogenic fungi were found on dead seedlings. Root fragments in the soil were not large enough to be infective even if colonized by *A. mellea*. Most of the dead seedlings which were examined had poorly developed root systems.

The most likely cause of death of seedlings on this site appears to be desiccation or stress-related problems due to inadequate roots. We would not expect further mortality to occur in seedlings if root systems have developed adequately.


for PAUL E. BUFFAM, Director
Forest Pest Management

cc:

Greg Filip
Dave Doty, Randle RD
Sheila Martinson, Gifford Pinchot NF, SO
Timber

